Amendments To The Claims

A complete list of all the presently or formerly pending claims in the application is provided below, with suitable headings to show the status of each claim and, where appropriate, its current text. This listing of claims will replace all prior versions, and listings of claims in this application.

Listing of Claims

1. (Currently amended) A DNA construct capable of expressing target proteins in transgenic plant seeds, comprising:

a seed-specific promoter sequence;

a first DNA sequence encoding the target proteins;

a second DNA sequence having a transmembrane domain sequence of BP-80 and a cytoplasmic tail sequence of α-Tonoplast Intrinsic Protein (α-TIP) which serve as anchors for delivering the target proteins to subcompartments of protein storage vacuoles bypassing Golgi of cells of tobacco seeds, wherein ~~at least a part of~~ the target proteins are not proteolytically processed before reaching the protein storage vacuoles, and are ~~is~~ separated from the anchors upon reaching the protein storage vacuoles; and

a third DNA sequence functioning as a termination region in the plant,

wherein the promoter is operably linked to the first DNA sequence, the first DNA sequence is operably linked to the second DNA sequence, and the second DNA sequence is operably linked to the third DNA sequence, and wherein the plant is tobacco.

2. (Cancelled).

3. (Cancelled).

4. (Cancelled)

5. (Cancelled).

6. (Cancelled).

7. (Original) The DNA construct of the claim 1, wherein the subcompartments include globoids or crystalloids.

8. (Original) The DNA construct of claim 1, wherein the third DNA sequence is an NOS terminator.

9. (Previously presented) The DNA construct of claim 1, further comprising a proteolytic cleavage spacer sequence operably linked to the transmembrane domain sequence so that the anchor does not affect proper folding of the target proteins, wherein the spacer sequence comprises SKTASQAK (SEQ ID NO: 8).

10. (Cancelled).

11. (Cancelled).

12. (Cancelled).

13. (Previously presented) The DNA construct of claim 9, wherein the protein storage vacuoles and their subcompartments provide a protease activity acting with the proteolytic cleavage sequence so that the target protein separates from the transmembrane domain.

14. (Cancelled).

15. (Previously presented) The DNA construct of claim 10, further comprising an engineered signal peptide sequence operably linked to the first DNA sequence, wherein the signal peptide

sequence is selected from the group consisting of a proaleurain signal peptide, a barley cysteine protease aleurain signal peptide, and a rice storage protein glutelin signal peptide.

16. (Cancelled).

17. (Previously presented) An expression system comprising a vector and the DNA construct as defined in claim 1.

18. (Previously presented) A host cell comprising the expression system as defined in claim 17.

19. (Original) The host cell of claim 18, wherein the host cell is a plant cell.

20. (Original) The host cell of claim 19, wherein the plant cell is a monocot cell or a dicot cell.

21. (Previously presented) A transgenic plant or progeny thereof comprising the DNA construct as defined in claim 1.

22. (Previously presented) A transgenic plant seed comprising the DNA construct as defined in claim 1.

23. (Previously presented) A method for constructing a transgenic plant comprising the steps of:

a) constructing an expression system comprising a vector and the DNA construct defined as in claim 1, wherein the DNA construct is inserted into the vector;

b) transforming plant cells with the expression system; and

c) regenerating the transgenic plant from the plant cells to produce the target proteins in

seeds of the transgenic plant.

24. (Original) The method of claim 23, wherein said vector is a plasmid vector.

25. (Original) The method of claim 24, wherein said plasmid vector is a binary or superbinary vector.

26. (Previously presented) The method of claim 25, wherein the vector is pBI121.

27. (Original) The method of claim 23, wherein the plant is tobacco or rice.

28. (Previously presented) The method of claim 27, wherein said plant cells are transformed utilizing an *Agrobacterium* system transfected with the expression system.

29. (Original) The method of claim 28, wherein said *Agrobacterium* system is an *Agrobacterium tumefaciens*-Ti plasmid system.